

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An information processing system, comprising:
a first computing device ~~for~~ configured to:
~~receiving~~ receive, through a first port connected to a first network, an
initialization packet originating from a client;
in response to at least the initialization packet, ~~outputting~~ output a
response packet to the client;
~~receiving~~ receive, through the first port, a request packet originating from
the client; and
in response to at least the request packet and a state of at least one of the
first computing device and a second computing device, selectively ~~outputting~~ output, through a
second port connected to a second network that is not the same as the first network, the request
packet to the second computing device ~~for performing an operation in response to the request~~
packet.
2. (Currently Amended) The system of Claim 1 wherein the first computing
device ~~is~~ comprises a network interface card.
3. (Currently Amended) The system of Claim 1 wherein the second
computing device is configured to perform an operation ~~is part of~~ a software application in
response to receipt of a request packet.
4. (Currently Amended) The system of Claim 3 wherein the software
application is a socket-based application.

5. (Currently Amended) The system of Claim 1 wherein the initialization packet is addressed by the client to the first computing device, and wherein the first computing device is ~~for receiving~~ configured to receive the initialization packet in response to the addressing.

6. (Currently Amended) The system of Claim ~~4~~3 wherein the operation includes outputting a response packet to the client, and wherein the first computing device is ~~for~~ configured to:

in response to at least the request packet and the state, selectively outputting the request packet to the second computing device for outputting the response packet to the client, such that the output response packet bypasses the first computing device.

7. (Currently Amended) The system of Claim 1 wherein the first ~~computing device is for receiving the initialization packet through~~ network comprises a global computer network.

8. (Currently Amended) The system of Claim 7 wherein the ~~first computing device is for selectively outputting the request packet to the second computing device through~~ second network comprises a local area network.

9. (Currently Amended) The system of Claim 1 wherein the first computing device is ~~for~~ configured to:

in response to at least the initialization packet, establishing a data structure of associated with a connection with the client; and

in response to at least the request packet and the state, selectively outputting a reference to the data structure to the second computing device for associating an application of the second computing device with the ~~data structure of the connection~~.

10. (Currently Amended) The system of Claim 1 wherein the first computing device is ~~for~~ configured to:

in response to at least the initialization packet, establishing a data structure of associated with a connection with the client, the data structure including a group of sequence numbers associated with the connection.

11. (Currently Amended) The system of Claim 10 wherein the first computing device is ~~for~~ configured to:

in response to at least the request packet and the state, selectively outputting a reference to the data structure to the second computing device for performing ~~the~~ an operation in response to receiving the reference to the data structure, the operation including outputting a response packet to the client according to the group of sequence numbers, such that the output response packet bypasses the first computing device and appears to the client as received from the first computing device.

12. (Original) The system of Claim 10 wherein the group of sequence numbers includes at least one start sequence number, at least one current sequence number, and at least one acknowledgement sequence number.

13. (Currently Amended) The system of Claim 1 wherein the first computing device is ~~for~~ configured to:

in response to at least the initialization packet, establishing a data structure of associated with a connection ~~with~~ to the client, the data structure including an address of the first computing device; and

in response to at least the request packet and the state, selectively outputting a reference to the data structure to the second computing device for performing ~~the~~ an operation in response to receiving the reference to the data structure, the operation including outputting a response packet to the client with a source address ~~equal to~~ that indicates the address of the first

computing device, such that the output response packet bypasses the first computing device and appears to the client as received from the first computing device.

14. (Original) The system of Claim 13 wherein the address includes an IP address.

15. (Original) The system of Claim 14 wherein the address includes a port.

16. (Original) The system of Claim 15 wherein the port is a TCP port.

17. (Original) The system of Claim 15 wherein the port is a UDP port.

18. (Currently Amended) A method performed by a first computing device of an information processing system, the first computing device connected to a first network via a first port and connected to a second network via a second port, the first and second networks being different, the method comprising:

receiving, through the first port, an initialization packet originating from a client;
in response to at least the initialization packet, outputting a response packet to the client;

receiving, through the first port, a request packet originating from the client; and
in response to at least the request packet and a state of at least one of the first computing device and a second computing device, selectively outputting, through the second port, the request packet to the second computing device for performing an operation in response to the request packet.

19. (Currently Amended) The method of Claim 18 wherein the first computing device ~~is~~ comprises a network interface card.

20. (Original) The method of Claim 18 wherein the operation is part of a software application.

21. (Currently Amended) The method of Claim 20 wherein the software application is a socket-based application.

22. (Currently Amended) The method of Claim 18 wherein the initialization packet is addressed by the client to the first computing device, and wherein the receiving, through the first port, an initialization packet originating from a client comprises the method comprises:

receiving the initialization packet in response to the addressing.

23. (Currently Amended) The method of Claim 18, the selectively outputting, through the second port, the request packet to the second computing device for performing the operation in response to the request packet ~~wherein the operation includes outputting a response packet to the client, and wherein the method comprises~~ comprising:

~~in response to at least the request packet and the state,~~ selectively outputting, through the second port, the request packet to the second computing device, for outputting ~~the a~~ response packet to the client, ~~such that the output response packet that~~ bypasses the first computing device.

24. (Currently Amended) The method of Claim 18, the first network comprising a global computer network, and further ~~wherein the method comprises~~ comprising:

receiving the initialization packet through ~~a~~ the global computer network.

25. (Currently Amended) The method of Claim 24, the second network comprising a local area network, and ~~wherein the method comprises~~ further comprising:

selectively outputting the request packet to the second computing device through ~~a~~ the local area network.

26. (Currently Amended) The method of Claim 18, ~~wherein the method comprises~~ comprising:

in response to at least the initialization packet, establishing a data structure ~~of that~~ represents a connection with the client; and

in response to at least the request packet and the state, selectively outputting a reference to the data structure to the second computing device for associating an application of the second computing device with ~~the data structure of~~ the connection.

27. (Currently Amended) The method of Claim 18, ~~wherein the method comprises~~ comprising:

in response to at least the initialization packet, establishing a data structure ~~of that~~ represents a connection with the client, the data structure including a group of sequence numbers associated with the connection.

28. (Currently Amended) The method of Claim 27, ~~wherein the method comprises~~ further comprising:

in response to at least the request packet and the state, selectively outputting a reference to the data structure to the second computing device for ~~performing the operation in response to the data structure, the operation including~~ outputting a response packet to the client according to the group of sequence numbers, such that the output response packet bypasses the first computing device.

29. (Original) The method of Claim 27 wherein the group of sequence numbers includes at least one start sequence number, at least one current sequence number, and at least one acknowledgement sequence number.

30. (Currently Amended) The method of Claim 18, ~~wherein the method comprises~~ further comprising:

in response to at least the initialization packet, establishing a data structure ~~of that represents~~ a connection with the client, the data structure including an address of the first computing device; and

in response to at least the request packet and the state, selectively outputting a reference to the data structure to the second computing device for performing the operation in response to the data structure, ~~the operation including~~ outputting a response packet to the client with a source address ~~equal to that indicates~~ that indicates the address of the first computing device, such that the output response packet bypasses the first computing device.

31. (Original) The method of Claim 30 wherein the address includes an IP address.

32. (Original) The method of Claim 31 wherein the address includes a port.

33. (Original) The method of Claim 32 wherein the port is a TCP port.

34. (Original) The method of Claim 32 wherein the port is a UDP port.

35. (New) An intelligent network interface device, comprising:
a first port for receiving an IP request packet from a client over a first network;
and

a second port for transmitting the received IP request packet over a second network that is not the same as the first network; and

a processor that is structured to:

maintain a state information table; and

selectively transmit the received IP request packet through the second port to a second intelligent network interface device based at least in part on the state information table, so that the second intelligent network interface device causes a response IP packet to be sent transparently to the client.

36. (New) The intelligent network interface device of claim 35, further comprising:

a synchronization port for receiving synchronization information, wherein the processor maintains the state information table based at least in part on the received synchronization information.

37. (New) The intelligent network interface device of claim 36 wherein the synchronization port comprises a third IP port.

38. (New) The intelligent network interface device of claim 35, further comprising:

a third port for selectively transmitting a response packet in response to a received request packet over a third network that is different than the first network and the second network.

39. (New) A server farm, comprising:

a plurality of servers;

a first network to receive client requests and coupled to a first server of the plurality of servers;

a second network to redistribute received client requests and coupled to each of the plurality of servers; and

a third network to transmit synchronization information and coupled to each of the plurality of servers, wherein the first server of the plurality of servers is configured to

selectively redistribute through the second network a received client request to a second server in the plurality of servers based at least in part on transmitted synchronization information.

40. (New) The server farm of claim 39, further comprising:
a router for transmitting a response to a received client request and coupled to the second server in the plurality of servers.

41. (New) The server farm of claim 39 wherein the first network is coupled to each of the plurality of servers and each server can receive a client request.

42. (New) A computer-readable memory medium containing instructions for controlling a computer processor to selectively load balance and direct network requests among a plurality of servers by:

maintaining a state table associated with the plurality of servers; and
when a client request packet is received through a first network, selectively generating, based at least in part on the maintained state table, a first type of network packet for transmission to a client through the first network or a second type of network packet for transmission to another processor residing in a different one of the plurality of servers via a second network that is different than the first network.

43. (New) The computer-readable memory medium of claim 42, further comprising instructions that control the processor by:

when a network packet of the second type is received through the second network, selectively generating a third type of network packet for transmission to the client through the first network.

44. (New) The computer-readable memory medium of claim 42, further comprising instructions that control the processor by:

when a network packet of the second type is received through the second network, selectively generating a third type of network packet for transmission to the client through a third network,.

45. (New) The computer-readable memory medium of claim 42 wherein the second type of network packet contains an encapsulation header that identifies a connection to the client via a first network.

46. (New) A server for use in a computer system server farm, comprising:
means for monitoring a state of the server farm;
means for receiving packets from a global network;
means for generating a first type of packet and transmitting the first type of packet via the global network when an initialization packet is received from the global network;
means for selectively generating, based at least in part on the monitored state of the server farm, a second type of packet when a client request packet is received from the global network; and
means for transmitting the second type of packet to another server in the server farm, wherein the means for transmitting the second type of packet is separate from means for receiving packets from the global network.

47. (New) The server of claim 46 wherein the means for receiving packets from a global network comprises a connection to a first local area network and the means for transmitting the second type of packet comprises a connection to a second local area network that is different from the first local area network.

48. (New) The server of claim 46 wherein the means for monitoring the state of the server farm comprises a connection to a synchronization network that is separate from the first local area network.

49. (New) An information processing system, comprising:
a first computer system; and
a second computer system having a network interface card that is structured to:
receive an initialization packet originating from a client;
in response to at least the initialization packet, output a response packet to
the client to set up a connection over a network;
receive a request packet originating from the client directed to the
connection; and
in response to at least the request packet and a state of at least one of the
first computer system and the second computing system, selectively output the request packet to
a network interface card of the first computer system thereby migrating the connection to the
first computer system.

50. (New) The information processing system of claim 49 wherein the first
computer system is structured to transparently output a response packet to the client in response
to the received request packet directed to the connection, such that the client perceives the
response packet is received from the second computer system.

51. (New) The information processing system of claim 49 wherein the
network interface card of the second computer system selectively outputs the request packet to
the network interface card of the first computer system without invoking services of the
operating system.

52. (New) The information processing system of claim 49 wherein the
network interface card of the second computer system selectively outputs the request packet to
the network interface card of the first computer system without using IP-IP encapsulation and
without using TCP splicing techniques.